

ILRI's Livestock Genetics Program - LiveGene

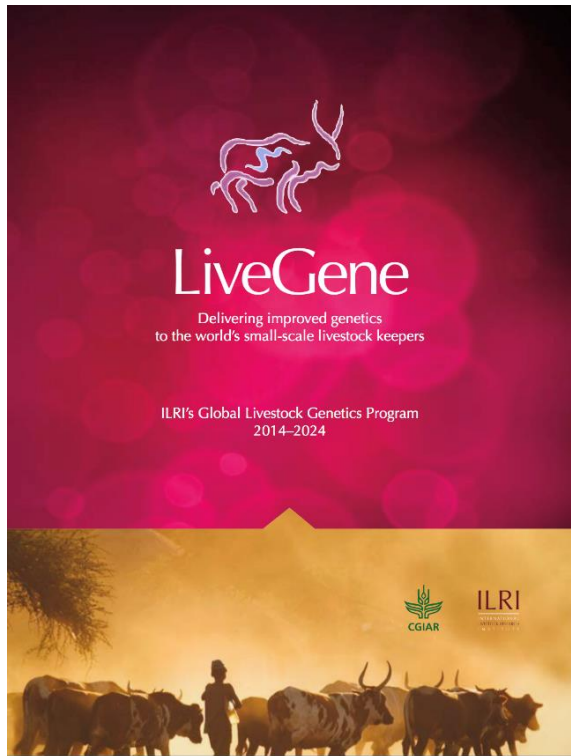
Karen Marshall, ILRI

Chinese Academy of Agricultural Sciences Delegation Visit
to ILRI Campus, Nairobi, 22 November 2017



LiveGene

Delivering improved genetics
to the world's small-scale livestock keepers



Objectives

- Determine the most appropriate genetic improvement strategies for different livestock production systems.
- Design and support implementation of sound breeding programs and delivery of the desired genetics to a range of livestock keepers.
- Discover the genes responsible for better productivity and resilience and develop or adapt technologies to incorporate these genes efficiently in local breeding programs.
- Identify policy gaps and provide the evidence and need for policies and institutional arrangements that would enable improved access to, and sustainable use of, livestock genetic resources.

What and where

Main species: chicken,
goats, sheep, pigs, cattle,
buffalo, camel

Mainly Africa & Asia

In collaboration
with a range of
private and
public sector
partners

..... A few examples to follow

Centre for Tropical Livestock Genetics and Health

- A partnership between ILRI, The Roslin Institute of the University of Edinburgh, and Scotlands Rural College
- Five focal areas – mainly upstream research including on gene discovery & using genetic tools to identify good breeding animals
 - Dairy Genomics
 - Chicken Genomics
 - Health Genomics
 - Reproductive Technologies
 - Bioinformatics



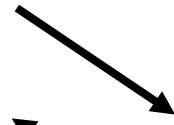
African Dairy Genetics Gain



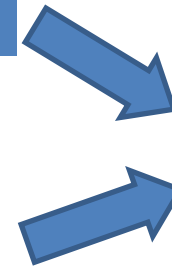
Digital information capture and farmer feedback & actors interaction Systems



Farmer/herd Bench marking and decisions



Improved/certified bulls/heifers



Productivity

Time



Optimize Realized Productivity for farmers

More productive & resilient dairy cows

Exploring the methods and structures that will support sustainable genetic improvement in smallhold dairy in East Africa

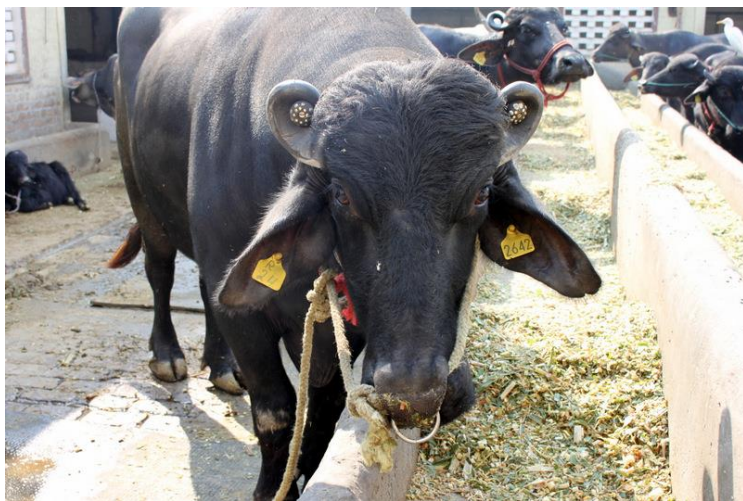
Uganda Pig Genetics

- Trade-off analysis aimed at determining the most appropriate household pig system (breed-type & management) for smallhold pig keepers in Uganda
- Implementation of breeding & delivery systems to ensure smallholders can access the most appropriate pig breed-type



India Dairy Buffalo

- Working with national partners in India to strengthen their dairy buffalo breeding program
- Including the introduction of genomic selection



Key facilities available to LiveGene

Key facilities

Joint CAAS - ILRI laboratory in Beijing, China -
Lanzhou Veterinary Research Institute

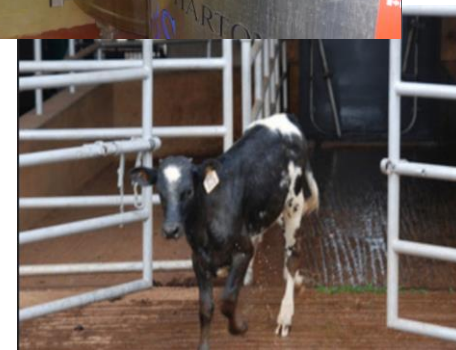
Joint ILRI-BecA laboraorites in Nairobi, Kenya

Reproductive platform in Nairobi, Kenya

Biobank in Nairobi, Kenya

Farm on ILRI main campus in Nairobi, Kenya

Kapiti Research Station, Kenya



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Patron: Professor Peter C Doherty AC, FAA, FRS

Animal scientist, Nobel Prize Laureate for Physiology or Medicine—1996

Box 30709, Nairobi 00100 Kenya
Phone +254 20 422 3000
Fax +254 20 422 3001
Email ilri-kenya@cgiar.org

ilri.org
better lives through livestock
ILRI is a CGIAR research centre

Box 5689, Addis Ababa, Ethiopia
Phone +251 11 617 2000
Fax +251 11 667 6923
Email ilri-ethiopia@cgiar.org

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